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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,348	12/06/2000	Girja Narlikar	3-1	3767

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EXAMINER

STRANGE, AARON N

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/731,348		NARLIKAR ET AL.	
	Examiner		Art Unit	
	Aaron Strange		2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

X

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/25/2005 have been fully considered but they are not persuasive.
2. With regard to claim 1, and Applicant's assertion that "Braddy does not disclose to suggest redirecting a web resource request to a proxy server" (Page 7, Lines 21-22 of Remarks), it is noted that the rejection of claim 1 was based on the combination of Braddy and Yoakum. Braddy teaches redirecting the request to a server, but does not specify that it is a proxy server. Yoakum discloses redirection of requests to a proxy server in order to improve the response time for servicing requests. When combined, as outlined in the rejection of claim 1 below, the combination of Braddy and Yoakum does disclose redirecting a web resource request to a proxy server.
3. With further regard to claim 1, and Applicant's assertion that "Braddy does not disclose or suggest heavy file types" (Page 7, Line 25 of Remarks), the Examiner respectfully disagrees. Braddy discloses examining the request to determine the file type of the request, also called the MIME type. MIME types are well known in the art and include many different file types. Braddy provides a few examples including "html", "gif", and "jpeg". Other well known MIME types include "mpeg" and "quicktime" (video), "zip" (compressed file), and "exe" (executable application). The file types are

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determined and then the request is forwarded to the appropriate server for processing (Braddy, Col 15, Line 61 to Col 16, Line 3).

4. With regard to claim 7, and Applicant's assertion that "Sharma does not teach determining if said web resource request is served by a domain having a traffic volume that exceeds a predefined threshold" (Page 8, Lines 12-13 of Remarks), the Examiner respectfully disagrees. Applicant bases this assertion on the belief that the number of threads supporting new and existing clients "does not equate to traffic volume". Sharma explicitly discloses that "The number of threads in the pool grows or shrinks dynamically *based on the number of concurrently active clients requests being processed*" (Col 23, Lines 48-50). Therefore, the number of threads is directly correlated with the number of concurrent requests being processed (traffic volume), and is a measurement of traffic volume, since a larger number of threads represents a larger traffic volume.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. With regard to claim 1, the limitation "redirecting said web resource request to a proxy server associated with said heavy file type" is unclear. Based on the specification, it appears that this step would occur only when it is determined that the web resource is a heavy file type (Page 8, Line 25 to Page 9, Line 8 of present application). The Examiner recommends that the claim be amended to recite "redirecting said web resource request to a proxy server associated with said heavy file type when it is determined that the web resource is a heavy file type" or a similar recitation. Claims 13 and 21 contain similar language and are rejected under the same rationale.

8. With regard to claim 7, the limitation "redirecting said web resource request to a proxy server associated with said domain" is unclear. Based on the specification, it appears that this step would occur only when it is determined that the web resource is server by a domain having a traffic volume exceeding a predefined threshold (Page 8, Line 25 to Page 9, Line 8 of present application). The Examiner recommends that the claim be amended to recite "redirecting said web resource request to a proxy server associated with said domain when it is determined that the domain has a traffic volume which exceeds the predefined threshold" or a similar recitation. Claims 17 and 22 contain similar language and are rejected under the same rationale.

9. The term "heavy file type" in claims 1, 13, and 21 is a relative term which renders the claim indefinite. The term "heavy file type" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one

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of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification defines heavy file types only as files with "large mean sizes" (Page 3, Line 28 of present application) and "significantly larger than average file size" (Page 7, Lines 1-3 of present application). It is unclear how it may be determined if a web resource is a predefined "heavy file type" because it is unclear what criteria need to be met in order for a file type to have a "large" mean size or have a "significantly larger than average" file size. Claims 6 and 12 also recite this term, and are rejected under the same rationale.

10. The term "heavy domain" in claim 12 is a relative term which renders the claim indefinite. The term "heavy domain" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification only defines a "heavy" domain to be a domain with "high" traffic and as a domain having "a predefined low threshold for total byte traffic and number of requests on the set of all domains". It is unclear what criteria need to be met in order for a domain to have "high" traffic or a "low" threshold for total byte traffic and number of requests.

11. All claims not individually rejected are rejected due to their dependency from the above claims.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 3, 13, 15, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braddy (US 6,304,967) in view of Yoakum et al. (US 6,421,674).

14. In referring to claims 1, 13, and 21, Braddy discloses a method of selecting a server storing a web resource from among a plurality of servers, said method comprising the steps of:

receiving a request for said web resource (Col 8, Lines 9-11);
determining if said web resource is a predefined heavy file type (request is analyzed to determine the file type such as HTML, jpeg, gif or other MIME types) (Col 15, Lines 48-60); and
redirecting said web resource request to a server associated with said heavy file type (appropriate server is chosen to handle the request)(Col 15, Line 61 to Col 16, Line 3 and Col 17, Lines 41-52).

Braddy fails to specifically disclose that the servers storing the web resource are proxy servers.

Yoakum discloses a similar system wherein database requests are redirected¹ to one of a plurality of proxy servers if the requested information is not available at the first proxy server queried. This allows most requested information to be obtained from a local proxy server, without requiring it to be retrieved from the wide area network.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize proxy servers to store the web resources in the system disclosed by Braddy since they could service many of the web requests without requiring the requests to be sent over the Internet, increasing the speed at which requests are serviced.

15. In referring to claims 3 and 15, Braddy further discloses a that said redirecting step further comprises accessing a server selection table that associates said file type to a server (Col 17, Lines 41-52).

16. Claims 2, 4, 5, 14, and 16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Braddy and Yoakum in further view of Gampper et al. (6,442,601).

17. In referring to claims 2 and 14, although Braddy and Yoakum shows substantial features of the claimed invention including redirection methods, they do not show *file type having an average size that exceeds a threshold*. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Pistriotto as evidenced by Gampper.

In an analogous art Gampper shows a proxy cache system for saving files of a predetermined minimum size and greater into secondary storage in the cache (col. 6 lines 31-59).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Braddy and Yoakum by employing the feature shown by Gampper in order to employ a commonly known caching scheme for saving larger files thereby reducing bandwidth required in retrieving files from the network (col. 6 lines 60-col. 7 line 9).

18. In referring to claim 4, 5, and 16, Gampper shows a proxy server based on the recent history of client request patterns and analyzing the recent history of client request patterns (col. 3 lines 24-29).

19. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braddy and Yoakum in further view of Smith (6,341,311).

Although Braddy and Yoakum show substantial features of independent claim 1 they do not show *assigning or sorting heavy domains into $P \times (1/h)$* . The claim essentially shows a formula for increasing the distribution to the number of proxy caches as the number of heavy requests goes up. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Smith.

In an analogous art Smith shows the access requests in a distributed cache. Smith shows the addition of new proxy server in to the network (fig. 11, col. 18 lines 49-53).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Braddy and Yoakum in order to lower demand on proxy servers by balancing load to new participating proxy servers (see Smith col. 18 lines 54- col. 19 lines 14).

20. Claims 7-11, 17, 18, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. (US 6,182,109) in view of Jordan (US 6,438,652).

21. In referring to claim 7, 17, and 22, Sharma shows a method for dynamically managing a pool or execution units in a server system by establishing both a minimum and maximum number of execution units in the communication process (see abstract).

Sharma shows:

- receiving a request for said web resource (fig. 7B, 'send request', col. 23 lines 15-22);
- determining if said web resource request is served by a domain having a traffic volume that exceeds a predefined threshold (served by server with MinThread, col. 23 lines 27-30, col. 23 lines 60-65, figure 8A, 579); and
- redirecting said web resource request to a server associated with said domain (fig. 8A, 581, col. 23 lines 66- col. 24 lines 2).

Although Sharma shows substantial features of the claimed invention, Sharma does not disclose selecting a proxy server storing web resources from among a plurality of proxy servers. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Sharma, as evidenced by Jordan.

In an analogous art Jordan shows a method for load balancing proxy cache servers by forwarding requests (see abstract). Jordan shows a centralized load-balancing environment for redirecting client request to appropriate proxy cache servers from a plurality of proxy servers (col. 5 lines 50-56).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Sharma to employ the features shown by Jordan in order to facilitate the use of local resources without having to traverse the network to access the Internet, which creates security issues and network traffic. Proxy servers are used to help prevent the obtaining of internal addresses and attacks on a private network thereby making the private network less vulnerable.

22. In referring to claims 8 and 18, Sharma shows predefined threshold is based on maximum normalized daily load (MaxThreads, col. 24 lines 3-24).

23. In referring to claims 9 and 19, Jordan shows accessing a proxy selection table that associates said domain to a proxy server (col. 6 lines 52-56).

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24. In referring to claims 10, 11, and 20 Jordan shows redirection of said request is based on analysis of recent history of client request patterns (col. 6 lines 6-49).

25. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma and Jordan in further view of Smith (6,341,311).

Although Sharma and Jordan show substantial features of independent claim 7, Sharma and Jordan do not show assigning or sorting heavy domains into $P \times (1/h)$. The claim essentially shows a formula for increasing the distribution to the number of proxy caches as the number of heavy requests goes up. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Smith.

In an analogous art Smith shows the access requests in a distributed cache. Smith shows the addition of new proxy server in to the network (fig. 11, col. 18 lines 49-53).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Sharma and Jordan in order to lower demand on proxy servers by balancing load to new participating proxy servers (see Smith col. 18 lines 54- col. 19 lines 14).

Conclusion


26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS
10/13/2005



Aaron Strange
Patent Examiner